

CLAIMS

1. A fungal polypeptide having lysozyme activity and belonging to the GH25 family.
- 5 2. The polypeptide according to claim 1 selected from the group consisting of:
 - (a) a polypeptide comprising an amino acid sequence, which has at least 80% identity with amino acids 1 to 233 of SEQ ID NO:2;
 - (b) a polypeptide comprising an amino acid sequence, which has at least 80% identity with the polypeptide encoded by the lysozyme encoding part of the nucleotide
10 sequence inserted into a plasmid present in strain DSM16084;
 - (c) a polypeptide which is encoded by a nucleotide sequence which hybridizes under high stringency conditions with a polynucleotide probe consisting of the complementary strand of nucleotides 84 to 782 of SEQ ID NO:1; or
 - (d) a fragment of (a), (b) or (c) that has lysozyme activity.
- 15 3. The polypeptide according to claim 2, comprising an amino acid sequence, which has at least 85% identity with amino acids 1 to 233 of SEQ ID NO:2, particularly at least 90% identity, more particularly at least 95% identity, or at least 99% identity with amino acids 1 to 233 of SEQ ID NO:2.
- 20 4. The polypeptide according to claim 3, which comprises the amino acids 1 to 233 of SEQ ID NO:2.
5. The polypeptide according to claims 2-4, which consists of the amino acids 1 to 233
25 of SEQ ID NO:2.
6. The polypeptide according to claim 2, which is encoded by a nucleotide sequence which hybridizes under very high stringency conditions with a polynucleotide probe consisting of the complementary strand of nucleotides 84 to 782 of SEQ ID NO:1.
- 30 7. A polynucleotide having a nucleotide sequence which encodes for the polypeptide defined in any of the claims 1-6.
8. A nucleic acid construct comprising the nucleotide sequence defined in claim 7
35 operably linked to one or more control sequences that direct the production of the polypeptide in suitable host.

9. A recombinant expression vector comprising the nucleic acid construct of claim 8.
10. A recombinant host cell comprising the nucleic acid construct of claim 8.
- 5 11. A method for producing a polypeptide as defined in any of the claims 1-6, comprising:
- (a) cultivating a strain, which in its wild-type form is capable of producing the polypeptide, in order to produce the polypeptide; and
 - (b) recovering the polypeptide.
- 10 12. A method for producing a polypeptide as defined in any of the claims 1-6, comprising:
- (a) cultivating a recombinant host cell as defined in claim 10, under conditions conducive for production of the polypeptide; and
 - 15 (b) recovering the polypeptide.
13. A polynucleotide having a nucleotide sequence which has at least 85% identity with nucleotides 84 to 782 of SEQ ID NO:1.
- 20 14. The polynucleotide according to claim 13, which has at least 90% identity, particularly at least at least 95% identity, more particularly at least 99% identity with the nucleotides 84 to 782 of SEQ ID NO:1.
15. A polynucleotide which comprises SEQ ID NO:1.
- 25 16. A polynucleotide which consists of SEQ ID NO:1.
17. A polynucleotide having a nucleotide sequence which has at least 85% identity with the lysozyme encoding part of the nucleotide sequence inserted into a plasmid present in
30 strain DSM16084.
18. A polynucleotide having a nucleotide sequence which encodes a polypeptide having lysozyme activity, and which hybridizes under high stringency conditions with a polynucleotide probe consisting of the complementary strand of nucleotides 84 to 782 of
35 SEQ ID NO:1.

19. A polynucleotide having a modified nucleotide sequence which comprises at least one modification in the mature polypeptide coding sequence of SEQ ID NO:1, and where the modified nucleotide sequence encodes a polypeptide which consists of amino acids 1 to 233 of SEQ ID NO:2.

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20. A method of shuffling a DNA comprising using the polynucleotide as defined in any of the claims 7 and 13-19.

21. A polynucleotide encoding a polypeptide having lysozyme activity obtainable by the
10 method of claim 20.

22. A polypeptide having lysozyme activity encoded by the polynucleotide of claim 21.

23. A use of a polypeptide according to any of the claims 1-6 as an inhibitor of bio-film
15 formation.

24. A use of a polypeptide according to any of the claims 1-6 in a dental composition.

25. A use of a polypeptide according to any of the claims 1-6 in a detergent
20 composition.

26. A use of a polypeptide according to any of the claims 1-6 in animal feed.